TWO NEW SPECIES OF *HYNESIONELLA* (HETEROPTERA: GERRIDAE) FROM SOUTH AFRICA[1]

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ABSTRACT: Two new species of *Hynesionella*, *H. karatara*, and *H. slateri*, are described from South Africa.

The following new species of Trepobatinae are described to make the names available for completion of a world overview and checklist of the subfamily, and a key to the known species of *Hynesionella* Poisson is provided. A redescription of the genus *Hynesionella* was given by Polhemus & Polhemus (1994), thus is not repeated here. In that work, the two species described below were listed as "two undescribed species from South Africa."

All measurements are in millimeters.

Hynesionella differs from the other two genera of Naboandelini, *Naboandelus* Distant and *Calyptobates* J. Polhemus & D. Polhemus, in having the posterior margin of the mesonotum definitely carinate medially as well as laterally, the metanotum strongly declivant, the mesonotum excavated behind posterolateral margins in both sexes, the posterolateral mesonotal plates large, almost vertical. *Hynesionella* also differs in having the male fore femur thickened, often distinctly bent, sculptured basally or medially, often with large ventral protuberances, whereas in *Naboandelus* the male fore femur slightly thickened with at most a slight basal protuberance set with very short setae, and in *Calyptobates* the fore femur is slender, very slightly thickened basally and unmodified. In most species sexual size dimorphism is pronounced, the males much smaller. The metasternal scent gland orifice (omphalium) is vestigial or absent, whereas it is present in the other two genera of Naboandelini, although very poorly developed.

Hynesionella karatara NEW SPECIES

Figures 1 - 3

Length, apterous male 2.63 (mean, N = 7; min. 2.55, max. 2.77), maximum width 1.30 (mean, N = 7; min. 1.28, max. 1.39). Length, apterous female 3.14 (mean, N = 3; min. 3.05, max. 3.27), maximum width 1.83 (mean, N = 3; min. 1.72, max. 1.89).

General color black, sides covered with grayish pruinosity, appearing yellowish in certain light. Small elongate spot medially on pronotum brownish yellow. U-shaped marking on base of head extending forward along inner eye margins, brown. Median quadrate region of mesonotum glabrous; entire body set with short pubescence.

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Structural characters. Apterous male. Head set with moderate length black setae, length 0.44, width 0.89; eye width (0.22), about half the width of the interocular space (0.43). Pronotum short, lateral margins rounded, length 0.33, width 0.86; mesonotum long, broad, sides almost straight, posterior margin almost straight, length 0.78, width 1.33 (Fig. 1); pronotum, mesonotum set with numerous black stout moderate length setae dorsally and laterally; metanotum fused with first two abdominal tergites, all three moderately long, weakly indicated laterally, combined length 0.50; abdominal tergites III-VI subequal in length (0.08-0.10), VII longer (0.17). Length of antennal segments I-IV: 0.89; 0.55; 0.33; 0.33; segment I long, weakly fusiform (Fig. 3).

Fore femur curved basally, notched, set with a thick brush of very short setae over most of length, forming a pad on distal half (Fig. 2); fore tibia slightly curved, broader on distal half. Measurements of legs as follows: femur, tibia, tarsal 1, tarsal 2 of fore leg, 1.17, 0.78, 0.06, 0.33; of middle leg, 2.36, 3.50, 1.11, 0.78; of hind leg (tarsal 1 and 2 fused), 2.66, 1.03, 0.44.

Lateral arms of proctiger not prominent, blunt distally, captured between broad lateral margins of tergite VIII and sternite VIII.

Apterous female. Structure, dorsal setae, and coloration mostly as in male, except larger and more robust, with unmodified fore legs; antennal segment I distinctly more slender than in male. Length of antennal segments I-IV: 0.72; 0.55; 0.39; 0.42. Middle femur broad on basal 2/3, flattened.

Type material. Holotype, apterous male, South Africa, Cape Prov., Karatara Pass, CL 968, 22 Feb. 1979, J. T. Polhemus (USNM). Paratypes (all apterous), 2 males, 2 females, same data as holotype (JTPC); 4 males, 2 females, South Africa, Cape Prov., 15 mi. (24 km) NW of Knysna, Phantom Pass Rd., 10 Feb. 1968, R. T. Schuh, J. & S. Slater, M. Sweet (JTPC, AMNH).

Etymology. The name *karatara*, a noun in apposition, refers to the type locality, Karatara Pass.

Comparative notes. The lack of any gray pruinose markings on the mesonotal dorsum separates *karatara* from the four other known species of *Hynesionella*. The sculpturing of the fore femur of *karatara* (Fig. 2) also is diagnostic. *Hynesionella karatara* sp. n. is closest to *H. capensis* (Poisson), as both of these species have the median part of the mesonotum shining black; in *capensis*, however, the median black area is narrow, flanked by gray pruinose, whereas in *karatara* it is broad, without gray pruinose. In addition, *capensis* is unique in having the posterior margin of the female mesonotum curved and extended posteriorly, instead of straight as in all other species of the genus.

Hynesionella slateri, NEW SPECIES

Figures 4 - 5

Length, apterous male 2.42 (mean, N = 3; min. 2.39, max. 2.44), maximum width 1.28 (mean, N = 3; min. 1.28, max. 1.28). Length, apterous female 2.89 (mean, N = 2; min. 2.89, max. 2.89), maximum width 1.58 (mean, N = 2; min. 1.55, max. 1.61).

General color gray, sides covered with grayish pruinosity, appearing yellowish in certain light. Broad depressed quadrate areas on pronotum and mesonotum densely clothed with decumbent, closely appressed whitish gray coarse pubescence underlain with whitish integument, at least on pronotum. Head orange yellow to orange brown, with a dark median wedge on anterior 1/2 to 2/3. Entire body set with short gray pubescence, longer on abdominal tergites. Fore femur orange except extreme base and extreme tip.

Structural characters. Apterous male. Head with moderate length black setae, length 0.33, width 0.83; eye width (0.22), about half the width of interocular space (0.39). Pronotum short, lateral margins rounded, length 0.28, width 0.78; mesonotum long, broad, sides slightly curved, length 0.72, width 1.27; pronotum, mesonotum with numerous black stout moderate length setae laterally and on pleura; metanotum fused with first two abdominal tergites, all three moderately long, weakly indicated laterally, combined length 0.39; abdominal tergites III-VI subequal in length (0.06-0.10), VII longer (0.14). Length of antennal segments I-IV: 0.68; 0.44; 0.33; 0.33; segment I long, very weakly fusiform (Fig. 4).

Fore femur stout, short, curved basally, set with a thick brush of very short setae over most of length, forming a pad on distal half (fig. 5); fore tibia slightly curved, broader on distal half. Measurements of legs as follows: femur, tibia, tarsal 1, tarsal 2 of fore leg, 0.89, 0.67, 0.06, 0.33; of middle leg, 2.77, 3.11, 1.17, 0.72; of hind leg (tarsal 1 and 2 fused), 2.39, 0.94, 0.42.

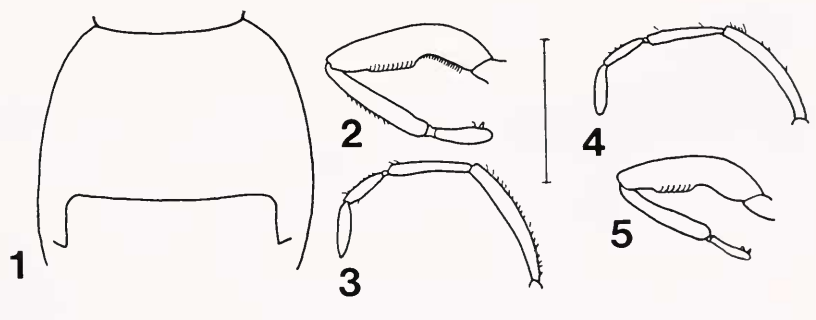
Lateral arms of proctiger not prominent, tapered distally, captured between broad lateral margins of tergite VIII and sternite VIII.

Apterous female. Structure, dorsal setae, and coloration mostly as in male, except larger and more robust, median depressed area of mesontotum not clearly differentiated in color, dorsal pubescence shorter; fore legs unmodified; antennal segment I about as thick as in male. Length of antennal segments I-IV: 0.67; 0.39; 0.33; 0.33. Middle femur not broadened nor flattened.

Type material. Holotype, apterous male, South Africa, Cape Prov., 18 mi. (28 km) NW of Kimberley, 18 Jan. 1968, R. T. Schuh, J. & S. Slater, M. Sweet (AMNH). Paratypes (all apterous), 2 males, 2 females, same data as holotype (JTPC, AMNH).

Etymology. The name *slateri* honors James A. Slater in recognition of his outstanding and voluminous contributions to the study of Heteroptera.

Comparative notes. *Hynesionella slateri* sp. n. is closest to *H. aethiopica* Hoberlandt, but differs in having the fore femur orange with a less pronounced basal notch.



Figures 1 - 3. *Hynesionella karatara* sp. n. 1. Female mesonotum, dorsal view. 2. Male fore leg. 3. Antenna.

Figures 4 - 5. *Hynesionella slateri* sp. n. 4. Antenna. 5. Male fore leg. Scale bar = 1 mm.

Key to the known species of *Hynesionella*

1. Mesonotal dorsum without gray pruinose markings ..... *karatara* sp. n.
—— Mesonotal dorsum with gray pruinose markings 2
2. Fore femur with a prominent basal tubercle in both male and female ... *cobbeni* Linnavuori
—— Male fore femur modified, but without a prominent basal tubercle; female fore femur unmodified 3
3. Fore femur mostly orange in both male and female ..... *slateri* sp. n.
—— Fore femur mostly dark colored, not orange 4
4. Male fore femur not excavated basally, not abruptly widened near middle; female mesonotum with posterior margin curved posteriorly ..... *capensis* (Poisson)
—— Male fore femur excavated basally, abruptly widened near middle; female mesonotum with posterior margin almost straight ..... *aethiopica* Poisson

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LITERATURE CITED

Polhemus, J. T. and D. A. Polhemus. 1994. The Trepobatinae (Gerridae) of New Guinea and surrounding regions, with a review of the world fauna. Part 2. Tribe Naboandelini. Entomol. Scand. 25: 333-359.

BOOK REVIEW

(concluded from page 188)

Davies, D. A. L., & P. Tobin. 1984. The Dragonflies of the World: A Systematic List of the Extant Species of Odonata, Vol. 1, Zygoptera, Anisozygoptera. Utrecht, S.I.O. Rapid Comm. (Suppl.) 3. 127 pp.

Davies, D. A. L., & P. Tobin. 1985. The Dragonflies of the World: A Systematic List of the Extant Species of Odonata, Vol. 2, Anisoptera. Utrecht, S.I.O. Rapid Comm. (Suppl.) 5. 151 pp.

Lohmann, H. 1992. Revision der Cordulegastridae. 1. Entwurf einer neuen Klassifizierung der Familie (Odonata: Anisoptera). Opusc. Zool. Flumin. 96: 1-18.

Tsuda, S. 1991. A Distributional List of World Odonata. Osaka, privately published. 362 pp.

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